

PS 3.2 *Presentation Manager Functional Requirements*

PS 3.2.1 Executive Manager Functional Capabilities

The Executive Manager functional area provides standard services for the presentation and management of a common desktop environment and for the execution of the processes invoked by the user in the common desktop environment.

3.2.1.1 EM The Executive Manager shall provide a consistent, common desktop environment for presentation of, user interaction with and management of the DII COE.

Traceability:
Priority ???

3.2.1.2 EM The common desktop environment shall be standards-based, e.g., X/Open Common Desktop Environment for UNIX-based systems and Windows Graphical User Interface for Intel-based systems.

Traceability:
Priority ???

3.2.1.3 EM The common desktop environment shall comply with the DII Style Guide and any other applicable DII standards.

Traceability:
Priority ???

3.2.1.4 EM The common desktop environment shall provide the capability to customize the layout of the desktop in accordance with the DII Style Guide.

Traceability:
Priority ???

3.2.1.5 EM The common desktop environment shall allow the user the ability to easily configure the window manager's cosmetic features (e.g., colors, fonts) in accordance with the DII Style Guide.

Traceability:
Priority ???

3.2.1.6 EM The common desktop environment shall allow the user the ability to return to a default desktop layout and configuration.

Traceability:
Priority ???

3.2.1.7 EM The Executive Manager shall provide the capability to move files and directories within the user's common desktop environment.

Traceability:
Priority ???

3.2.1.8 EM The Executive Manager shall provide the capability to copy files and directories within the user's common desktop environment.

Traceability:
Priority ???

3.2.1.9 EM The Executive Manager shall provide the capability to create files and directories within the user's common desktop environment.

Traceability:
Priority ???

3.2.1.10 EM The Executive Manager shall provide the capability to delete files and directories within the user's common desktop environment.

Traceability:
Priority ???

3.2.1.11 EM The Executive Manager shall provide the capability to modify files and directories within the user's common desktop environment.

Traceability:
Priority ???

3.2.1.12 EM The Executive Manager shall provide the capability to read files and directories within the user's common desktop environment.

Traceability:
Priority ???

3.2.1.13 EM The Executive Manager shall provide the capability to format removable media.

Traceability:
Priority ???

3.2.1.14 EM The Executive Manager shall provide the capability to eject removable media.

Traceability:
Priority ???

3.2.1.15 EM The Executive Manager shall provide the capability to move files to removable media from the user's common desktop environment.

Traceability:
Priority ???

3.2.1.16 EM The Executive Manager shall provide the capability to move files from the user's common desktop environment to removable media.

Traceability:
Priority ???

3.2.1.17 EM The Executive Manager system shall provide an icon-based method for launching applications and system functions, which allows users to launch system objects directly. The Executive Manager will provide the connection between the GUI and application execution.

Traceability:
Priority ???

3.2.1.18 EM The Executive Manager shall provide an optional, configurable system menu bar for launching applications and system functions, which allows users to launch system objects directly. The Executive Manager will provide the connection between the menu and application execution.

Traceability:
Priority ???

3.2.1.19 EM The Executive Manager shall only display the system resources the user may access based on the user's active profile(s).

Traceability:
Priority ???

3.2.1.20 EM The Executive Manager shall provide a GUI-based capability to set the access permissions (e.g., read, write, execute, control, delete) of the user's system resources (e.g., files and directories).

Traceability:
Priority ???

3.2.1.21 EM The Executive Manager shall provide a GUI-based login capability which supports unitary login.

Traceability:
Priority ???

3.2.1.22 EM The unitary login capability shall support a transparent, distributed login.

Traceability:
Priority ???

3.2.1.23 EM The Executive Manager shall provide a GUI-based logout capability which terminates the user's login session.

Traceability:
Priority ???

3.2.1.24 EM The Executive Manager shall provide the capability to lock a user's account on the workstation after a configurable number of unsuccessful login attempts (e.g., failures to enter valid password, nominally three).

Traceability:
Priority ???

3.2.1.25 EM The Executive Manager shall display a security cover page indicating the system high water mark (e.g., the highest level the system can operate including compartments and categories).

Traceability:
Priority ???

3.2.1.26 EM The security cover page shall be acknowledged by the user prior to displaying the user's login session.

Traceability:
Priority ???

3.2.1.27 EM The Executive Manager shall provide a GUI-based profile selection mechanism with the following capabilities:

3.2.1.27a EM The profile selection mechanism shall be available after successful user login when the following conditions are true:

1. user possesses multiple profiles

Traceability:
Priority ???

2. profile selection mechanism is enabled

Traceability:
Priority ???

3.2.1.27b EM The profile selection mechanism shall display the user's valid profiles, currently selected profile(s) and unselected profile(s).

Traceability:
Priority ???

3.2.1.27c EM The profile selection mechanism shall allow a configurable number of selections, either 1 or n, where the user may be restricted to selecting one profile or can select any number of profiles up to n where n is the total number of valid profiles for the user.

Traceability:
Priority ???

3.2.1.27d EM The profile selection mechanism shall be available during the user's session to change profiles without the need for the user to logout.

Traceability:
Priority ???

3.2.1.28 EM The Executive Manager shall establish and maintain the user's session until a logout action is initiated by the user or system. A session is the implementation of the user's profile(s) within the user's work environment from login to logout. The session provides the resources that the user needs to perform the functions of the user's profile(s).

Traceability:
Priority ???

3.2.1.29 EM The Executive Manager shall provide a read-only console window for display of system messages.

Traceability:
Priority ???

3.2.1.30 EM The Executive Manager shall display alerts in accordance with the DII Alerts Software Requirements Specification.

Traceability:
Priority ???

3.2.1.31 EM The Executive Manager shall provide the capability to blank and lock the user's screen during the user's session after a configurable period of inactivity.

Traceability:
Priority ???

3.2.1.32 EM The screen lock capability shall require that the user enter their password in order to unlock the screen.

Traceability:
Priority ???

3.2.1.33 EM The Executive Manager shall provide the capability to automatically logout the user from their session after a specified period of inactivity during the user's session.

Traceability:
Priority ???

3.2.1.34 EM The Executive Manager shall provide the capability to send an alert in accordance with the DII Alert SRS after a specified period of inactivity during the user's session.

Traceability:
Priority ???

3.2.1.35 EM The Executive Manager shall provide the capability to capture all or any portion of the display screen.

Traceability:
Priority ???

3.2.1.36 EM The Executive Manager shall provide the capability to save the captured screen image in a file.

Traceability:
Priority ???

3.2.1.37 EM The Executive Manager shall provide the capability to selectively send print job(s) to printers.

Traceability:
Priority ???

3.2.1.38 EM The Executive Manager shall provide a GUI-based capability for the user to monitor and control their print queues in a heterogeneous environment and perform the following administration tasks:

3.2.1.38a EM The Executive Manager shall provide the capability to display the user's print queue status

Traceability:
Priority ???

3.2.1.38b EM The Executive Manager shall provide the capability to delete the user's print jobs from the print queue.

Traceability:
Priority ???

3.2.1.39 EM The Executive Manager shall provide a GUI-based capability for the user to change the password associated with their account.

Traceability:
Priority ???

PS 3.2.2 Multimedia Functional Capabilities

The Multimedia functional area contains 7 sub-areas: multimedia applications, text, graphics, imagery, video, audio, multimedia system services. It is possible that a single software package may support more than one subcomponent. Text and graphics application requirements are specified in the office automation requirements specification whereas multimedia specific requirements are contained herein (e.g., hypertext). All multimedia software and services described below shall meet any higher level requirements as spelled out elsewhere in software requirements specifications and other DII program documents (e.g., the DII style guide).

PS 3.2.2.1 MM Multimedia Applications

Multimedia applications incorporate two or more multimedia data types and services (e.g., text, audio, video processing).

3.2.2.1.1 MM-MA Generic multimedia information access shall be provided by the approved DII version of a HyperText Markup Language (HTML) viewer (e.g., NSCA Mosaic or Netscape). The server and the client shall support "extension map files" to map file extensions to Multipurpose Internet Mail Extensions (MIME, RFC 1521) types in order to support launching of appropriate applications based on MIME type. Both graphical and text based viewing modes shall be provided the browser.

Traceability: CSSS para 3.2.16.1 to
3.2.16.8
Priority 1

3.2.2.1.2 MM-MA To support the construction of automated hypermedia presentations, briefings, and after-action presentations, the presentation software shall support the temporal specification and real-time synchronization of multiple media in arbitrary combinations (e.g., text, animation, and audio scripting using standards such as HyTime or vendor formats). The software shall support the control of presentations, both in time and content, to include the ability to control audio and video (e.g., pan, zoom, point to displayed items).

Traceability:
Priority 1

3.2.2.1.3 MM-MA The software shall support synchronous point to point collaboration via:

1. shared whiteboards (including maps and images)

Traceability:
Priority 1

2. shared audio

Traceability:
Priority 1

3. shared chatter

Traceability:
Priority 1

4. shared video

Traceability:
Priority 2

5. shared applications Priority 2 (the distributed viewing, control and manipulation of, for example, office automation tools, browsers and geographic information systems) .

The software shall support synchronous multipoint collaboration of the above.

Traceability:
Priority 2

The software shall not preclude compliance to T.120 and H.32x standards.

Traceability:
Priority 1

The software shall support collaboration management to include session initiation and termination, addition, deletion and exclusion of participants, and supports the establishment and transfer of roles (e.g. chair, participant) and include persistence of data, participants, and environment.

Traceability:
Priority 2

The software shall support video and audiographic teleconferencing to enable distributed briefings as well as collaborative analysis, planning and mission rehearsal. (point to point).

Traceability:
Priority 1

Multi Point

Traceability:
Priority 2

Teleconferencing software shall conform to the (Doris)Industry Profile for Video Teleconferencing (VTC001-Rev. 1, April 25 1995) where applicable.

Traceability:
Priority 1

Video and audiographic teleconferencing software shall be able to capture to storage all or part of a teleconference.

Traceability:
Priority 2

3.2.2.1.4 MM-MA The software shall support asynchronous multi-user collaboration via multimedia mail, news groups, World Wide Web pages and bulletin boards.

Traceability:
Priority1

3.2.2.1.5 MM-MA

3.2.2.1.6 MM-MA Multimedia Applications shall support the import, creation, editing, storage, retrieval, and export of multimedia information to include the import, export and display of Microsoft PowerPoint data.

Traceability:
Priority 1

3.2.2.1.7 MM-MA Multimedia Applications selected for DII shall provide a user interface that conforms to the DII style guide.

Traceability:
Priority 1

PS 3.2.2.2 MM Text Processing

The Office Automation area will specify requirements for Text Processing software for text input, editing, storage, retrieval, and printing. Additional requirements (e.g., for hypertext) are contained in this Specification.

Traceability: CSSS para 3.2.16.17 to
3.2.16.23
Priority ???

3.2.2.2.1 MM-TPThe Text Processing software shall support hypertext (e.g., HyperText Markup Language (HTML)) generation, editing (to include wysiwyg HTML editing), validation (e.g., as conformant to a particular version of HTML), conversion, storage, retrieval, display, and navigation.

Traceability:
Priority 1

3.2.2.2.2 MM-TPThe software shall support the input, editing, conversion, access, storage, retrieval, and display of multiple electronic formats for text (e.g., ASCII), page layout (e.g., PostScript, Adobe Acrobat's Portable Document Format (PDF)), and document interchange (e.g., RTF, SGML).

Traceability:
Priority 1

3.2.2.2.3 MM-TPThe software shall be extensible to, or currently support, the management of text encoded in Standard Generalized Markup Language (SGML).. The software shall support the creation of Document Type Definitions (DTDs) and Style Sheets, including the definition of international character sets, mathematical expressions, and embedded comments. It shall include an SGML parser that can validate conformance of document instances to particular DTDs (e.g., HTML, HyTime). The software shall support access to document collections by SGML tag and tag attribute-value (e.g., <AUTHOR>, <AUTHOR name="Maybury">).

Traceability:
Priority 3

PS 3.2.2.3 MM Graphics Processing

The Office Automation Software Requirements Specification will detail requirements for Graphics Processing software for graphics, including input, editing, storage, printing, screen capture. Additional requirements (e.g., relating to hypermedia) are contained herein.

Traceability: CSSS para 3.2.16.1 to
3.2.16.8
Priority ???

PS 3.2.2.3.1 MM Raster Graphics

3.2.2.3.1.1 MM-RG The Raster Graphics software shall support the import, display, and export of TIFF R/G (Tagged Image File Format), JPEG, and GIF (Graphics Interchange Format) file formats, and it may also support EPS (Encapsulated PostScript), Group 3 and 4 fax file format and Raster Product Format (RPF) (the latter for mapping products).

Traceability:
Priority 1

3.2.2.3.1.2 MM-RG The Raster Graphics software shall provide a video capture capability which interfaces with digital cameras and commercial frame grabber boards (e.g., the Sun VideoPix frame grabber board).

Traceability:
Priority 2

3.2.2.3.1.3 MM-RG The Raster Graphics software shall provide screen capture and display (e.g., Sun Raster, X-XWD) and shall support exchange of data in Bit Map (BMP) format with windows-based platforms.

Traceability:
Priority 1

It should be noted that whereas many intelligence organizations are creating GIF graphic files for use with HTML browser, because this is a compressed, low-resolution format, these may require conversion and/or be insufficient for reuse in certain DII applications, depending upon data interchange requirements. Because of data interoperability problems with Microsoft PowerPoint files, GIF file use should be minimized.

PS 3.2.2.3.2 MM Vector Graphics

3.2.2.3.2.1 MM-VG The Vector Graphics software shall support the import, editing, and export of CGM (Computer Graphics Metafile) file format.

Traceability:
Priority 1

3.2.2.3.2.2 MM-VG The Vector Graphics software shall support the import, editing, and export of Vector Product Format.

Traceability:
Priority 1

3.2.2.3.2.3 MM-VG The Vector Graphics software shall support the conversion from CGM to raster graphics formats to include at least JPEG.

Traceability:
Priority 1

3.2.2.3.2.4 MM-VG The Vector Graphics software shall support the creation, storage, and embedding of text and raster graphics in CGM and VPF.

Traceability:
Priority 1

PS 3.2.2.4 MM Imagery and Image Processing

Traceability: CSSS para 3.2.16.1 to
3.2.16.8
Priority ???

PS 3.2.2.4.1 Imagery Standards

A suite of MIL standards developed by the Central Imagery Office (CIO) and approved by DOD known as the National Imagery Transmission Format Standard (NITFS) shall be used to format digital imagery and imagery-related products, for image compression algorithms, and for communication protocols.

Traceability:
Priority 1

The NITFS suite includes the following key military standards:

- *National Imagery Transmission Format (Version 2.0) for NITFS* describes the NITF Format itself: the field definitions and field content specifications. Data formats support four types of data: image, symbols (graphics), labels, and text
- *Computer Graphics Metafile (CGM) Implementation Standard for the NITFS* profiles the ISO CGM 89 standard that has been adopted for the description of non-photographic data, such as

overlays and maps. The DII direction for creation, storage, reuse, and transmission of still visual data is Computer Graphics Metafile (CGM) and NITFS. Both allow for use of data across platforms, across applications, and can accommodate hard copy and soft copy. CGM and NITFS are still the targets for cross-platform, cross-application movement, use, and storage of intelligence still visual data.

- *Bi-level Image Compression* (CCITT T.4 [Group 3]) for the NITFS profiles one of the compression options available for NITFS.
- *Vector Quantization Image Decompression* for the NITFS accepts and decompresses image data that are compressed using a VQ compression algorithm.
- *Joint Photographic Experts Group (JPEG) Image Compression for the NITFS* profiles an ISO standardized compression option for sequential coding. NITFS supports the wrapping of still imagery in a single file with associated data, or links to associated data of any variety. This imagery data may include any combination of still visual data including maps, imagery, or graphic. Photographic data are presented as a bit-map format, while associated non-photographic data are given in the CGM format. Further, the NITFS include the capability to manage security related information without destructive annotations to the imagery.

PS 3.2.2.4.2 Image Standards

An image is a raster graphic captured by photographic means (e.g., satellite, digital camera, scanned images). Image capture and scanning is the responsibility of the end users, but the file formats that they generate must conform to the following standards. The image software shall provide the capability to import, display, and export of image and graphics data in those formats stated in the Raster Graphics section above.

Traceability:
Priority 1

PS 3.2.2.4.3 Imagery and Image Functional Capabilities

3.2.2.4.3.1 MM-IP The Display and Manipulation software shall provide the capability to display the image in (1) gray-scale and (2) 24-bit color.

Traceability:
Priority 1

3.2.2.4.3.2 MM-IP The Display and Manipulation software shall provide the capability to zoom, pan (roam) the image area both horizontally and vertically, rotate the image and flip the image. It shall support color changes and the ability to crop images.

Traceability:
Priority 1

3.2.2.4.3.3 MM-IP The Display and Manipulation software shall provide the capability to change, enhance, and sharpen contrast for either the entire image or a selected area of the image.

Traceability:
Priority 1

3.2.2.4.3.4 MM-IP The Display and Manipulation software shall provide the capability to select an Area of Interest (AOI) and manipulate it independently of the original image, as well as to annotate the image nondestructively with text information, and graphical annotations including boxes and circles.

Traceability:
Priority 1

3.2.2.4.3.5 MM-IP The Display and Manipulation software shall provide a compression algorithm compliant with NITFS.

Traceability:
Priority ???

PS 3.2.2.6 MM Video Processing

Traceability: CSSS para 3.2.16.9 to
3.2.16.14
Priority ???

3.2.2.6.1 MM-VP The Video Processing software shall provide the capability to control the recording/importing, displaying, and exporting of analog video data in NTSC, PAL, Secam, and S-Video formats.

Traceability:
Priority 2

3.2.2.6.2 MM-VP The Video Processing software shall provide the capability to import, record (from analog or digital sources), display, and export digital video data in certified

1. ISO/IEC 11172-2 (MPEG-1)

Traceability:
Priority 1

2. ISO/IEC 13818-2 (MPEG-2) file format

Traceability:
Priority 2

3. QuickTime file format

Traceability:
Priority 2

4. Microsoft Video for Windows file format

Traceability:
Priority 2

5. AVI for Sun file format

Traceability:
Priority 2

where MPEG stands for Motion Picture Experts Group.

3.2.2.6.3 MM-VP The Video Processing software shall provide the capability to convert among the above formats.

Traceability:
Priority 2

3.2.2.6.4 MM-VP The Video Processing software shall provide the capability to edit (e.g., cut and paste (priority 1)) and create special effects (such as dissolves, cuts, and fades among video clips (priority 3)) video and related components (e.g., images, audio, text) including captured contents of a video teleconference.

PS 3.2.2.7 MM Audio Processing

Audio files come in various formats and there are currently no agreed upon standards. The file extension used on Intelink is .au (Sun OS sound file format), one of several de facto standards. DII will utilize this format until an open standard is more widely adopted. While not a current DII requirement (current DII platforms include Sun and Hewlett Packard), sound cards and software are available to support the interpretation of these sound files by machines running Microsoft Windows. The audio used in teleconferencing applications shall generally conform to one of the existing or emerging ITU-T G.700 series recommendations, G.711, G.722, G.723, or G.728, or MPEG-2 audio, ISO 13818-3.

Traceability: CSSS para 3.2.16.1 to
3.2.16.8
Priority 1

3.2.2.7.1 MM-AP The Audio Processing software shall provide the capability to import, record, display, and export digital audio data in .au, ITU-T G.700 series, and MPEG-1 and 2 formats. (Priority 1)
Conversion to/from voc, midi, wav, and aiff file formats is desirable.

Traceability:
Priority 2

3.2.2.7.2 MM-AP The Audio Processing software shall provide the capability to convert among the above formats.

Traceability:
Priority 2

3.2.2.7.3 MM-AP The Audio Processing software shall provide the capability to edit audio (e.g., cut, paste, adjust volume over time).

Traceability:
Priority 2

PS 3.2.2.8 MM Data Interchange Standards

Critical to the data sharing that DII will require are data interchange standards that provide standard encoding methods for the various types of multimedia data. Table 1. Data Interchange Standards Profile details recommended formats, file name extensions, viewing applications, and associated standards references for the different types of multimedia data. Optional items are italicized. While standards for some types of data are based on international and/or public specifications and are stable, others are newly emerging data types, merely de facto and vendor-specific. There are several emerging standards associated with NIDR tools that may be used today with confidence that such use will entail little risk of significant changes to the standards including HyperText Transfer Protocol (HTTP) and Uniform Resource Locator (URL). These and all standards need to be continuously monitored and reviewed (e.g., the evolution from URL to Uniform Resource Name (URN)). Selection among alternative standards should be accomplished through a consensus based organization, such as a DII Standards Panel associated with the Architecture Oversight Group.

(Optional items are italicized)

Multimedia Service Area	Standards/Formats/Convention	File Name Extension	Viewing Application	Standards Reference Number
Multimedia	MPEG-1, MPEG-2			ISO 11172-2, ISO 13818-2
Text	ASCII	txt	Mosaic/Netscape	ISO 646
Hypertext	HTML <i>HyTime</i>	htm or html	Mosaic/Netscape <i>Vendors</i>	Internet Draft <i>ISO/IEC 10744:1992</i>
Page Layout	PostScript PDF	ps pdf	Vendors Vendors	Vendor Format Vendor Format
Document Interchange	RTF <i>SGML</i>	rtf <i>sgm or sgml</i>	Vendors <i>Vendors</i>	Vendor Format <i>FIPS Pub 152, ISO/8879</i>

Raster Graphics	JPEG <i>TIFF (R,G)</i> <i>GIF</i> <i>EPS</i> <i>Group 3 and 4 fax</i> Raster ProductFormat <i>Sun Raster</i> <i>X-XWD</i>	jpg or jpeg <i>tif or tiff</i> <i>gif</i> <i>eps</i> RPF <i>ras</i> <i>xwd</i>	XV <i>XV (X11)</i> <i>Mosaic/Netscape</i> <i>Vendors</i> <i>Vendors</i> <i>Vendors</i> <i>XV</i> <i>XV</i>	ISO10918, MIL-STD-188 <i>Vendor Format</i> <i>Vendor Format</i> <i>Vendor Format</i> <i>Vendor Format</i> MIL STD 2411 <i>Vendor Format</i> <i>Vendor Format</i>
Vector Graphics	CGM Vector Product Format	cgm VPF	 VPF View	ISO 8632.1-4:1992, FIPS 128-1, MIL-D-28003 MIL STD 2407
Imagery	NITFS 2.0 JPEG Bi-Level Image Vector Quantization Decompression	nit or nitf jpg or jpeg	Mate XV	MIL-STD-2500A ISO10918MIL-STD -188- 198A MIL STD 188-196 MIL-STD 188-199
Synchronous Conferencing	Video Teleconference Data Conferencing	(no storage) (no storage)	(VTC software) Whiteboards	H.32X T.120
Video	MPEG-1, <i>MPEG-2</i> <i>QuickTime</i> <i>Video for Windows</i>	mpg, mpeg <i>qt or mov</i> <i>avi</i>	mpeg_play	ISO 11172-2, ISO 13818- 2) <i>Vendor Format</i> <i>Vendor Format</i>
Audio	ADPCM MPEG-1, <i>MPEG-2</i>	au mpg or mpeg	play,showaudio mpeg_play	Vendor Format (Sun OS) ISO/IEC 11172-3, ISO/IEC 13818-3

Table 1. Data Interchange Standards Profile

EM 3.2.3 Executive Management Requirements Submitted by the Army

EM 3.2.3.1 Executive Manager shall provide the capability for an application to store full screen display and window images.

Traceability: ARMY, 20 July 1996
Priority ???

EM 3.2.3.2 Executive Manager shall provide the capability to initiate recording requests according to priority as established by the application program.

Traceability: ARMY, 20 July 1996
Priority ???

EM 3.2.3.3 Executive Manager shall provide the capability to initiate recording according to priority as established by the application program.

Traceability: ARMY, 20 July 1996
Priority ???